

Name

Key

Date

201 Addition/Subtraction Proof Worksheet

Complete the following proofs.

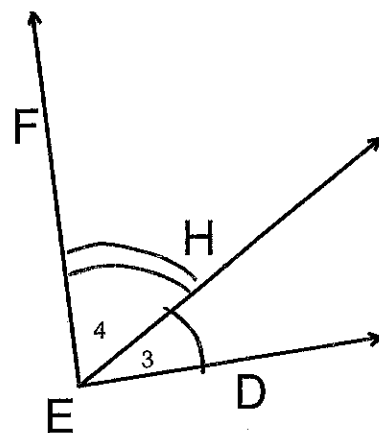
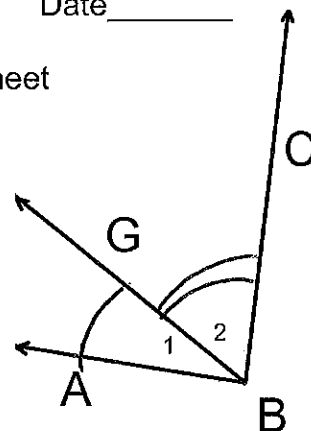
1. Given: $m\angle 1 = m\angle 3$
 $m\angle 2 = m\angle 4$
 Prove: $m\angle ABC = m\angle DEF$

Statements

Reasons

1. $m\angle 1 = m\angle 3$; $m\angle 2 = m\angle 4$
2. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$
3. $m\angle ABC = m\angle 1 + m\angle 2$
 $m\angle DEF = m\angle 3 + m\angle 4$
4. $m\angle ABC = m\angle DEF$

1. Given
2. Add
3. AAP
4. Subst



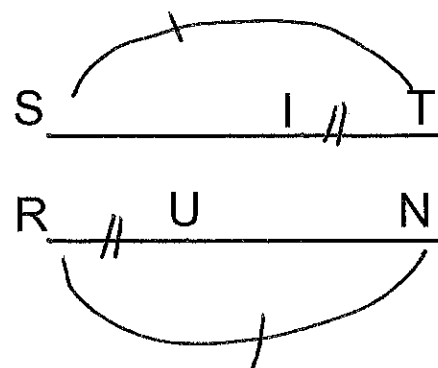
2. Given: $ST = RN$; $IT = RU$
 Prove: $SI = UN$

Statements

Reasons

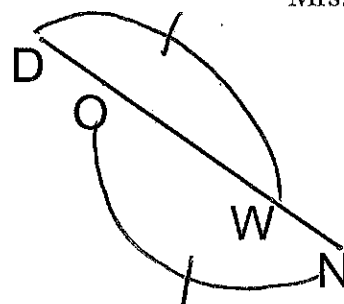
1. $ST = RN$; $IT = RU$
2. $ST = SI + IT$; $RN = RU + UN$
3. $SI + IT = RU + UN$
4. $SI = UN$

1. Given
2. SAP
3. subst.
4. subtr.



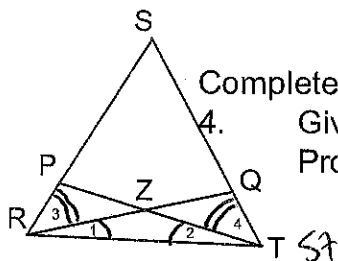
3. Given: $DW = ON$
 Prove: $DO = WN$

Statements	Reasons
1. $DW = ON$	1. Given
2. $DW = DO + OW$; $ON = OW + WN$	2. SAP
3. $DO + OW = OW + WN$	3. Subst.
4. $OW = OW$	4. Reflexive
5. $DO = WN$	5. Subtr.



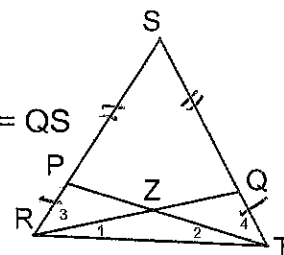
Complete the following proofs on your own.

4. Given: $m\angle 1 = m\angle 2$; $m\angle 3 = m\angle 4$
 Prove: $m\angle SRT = m\angle STR$



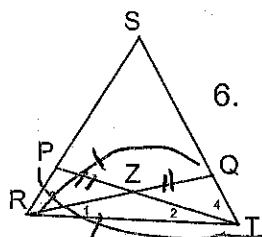
Statements	Reasons
① \sim	① Given
② $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$	② Add
③ $m\angle 1 + m\angle 3 = m\angle SRT$ $m\angle 2 + m\angle 4 = m\angle STR$	③ AAP
④ $m\angle SRT = m\angle STR$	④ Subst.

5. Given: $RP = TQ$; $PS = QS$
 Prove: $RS = TS$



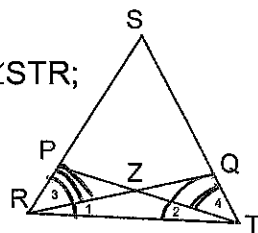
Statements	Reasons
① $RP = TQ$ $PS = QS$	① Given
② $RP + PS = TQ + QS$	② Add
③ $RP + PS = RS$ $TQ + QS = TS$	③ SAP
④ $RS = TS$	④ Subst

6. Given: $RQ = TP$; $ZQ = ZP$
 Prove: $RZ = TZ$



Statements	Reasons
① $RQ = TP$; $ZQ = ZP$	① Given
② $RQ = RZ + ZQ$ $TP = TZ + ZP$	② SAP
③ $RZ + ZQ = TZ + ZP$	③ Subst
④ $RZ = TZ$	④ Subtr.

7. Given: $m\angle SRT = m\angle STR$;
 $m\angle 3 = m\angle 4$
 Prove: $m\angle 1 = m\angle 2$



Statements	Reasons
① $m\angle SRT = m\angle STR$ $m\angle 3 = m\angle 4$	① Given
② $m\angle SRT = m\angle 3 + m\angle 1$ $m\angle STR = m\angle 4 + m\angle 2$	② AAP
③ $m\angle 3 + m\angle 1 = m\angle 4 + m\angle 2$	③ Subst
④ $m\angle 1 = m\angle 2$	④ Subtr